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10/658,182	09/09/2003	Jay C. Brinkmeyer	200303934-3	3338

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HEWLETT-PACKARD COMPANY
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Fort Collins, CO 80527-2400

EXAMINER

MYINT, DENNIS Y

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/658,182

Applicant(s)

BRINKMEYER, JAY C.

Examiner

Dennis Myint

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09/09/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>09/09/2003</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-25 have been examined.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim 1, 6, 7, 10, 15, and 16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1-4 of U.S. Patent No.6308167.

Namely, instant claims 1, 6, 7, 10, 15, and 16 recite limitations that constitute a subset of all possible conditions already encompassed by the scope of claim 1, 1, 2, 3, 3, and 4 of U.S. Patent Number No.6308167. See *Georgia Pacific Corp v. United States Gypsum Co.*, 52 USPQ2d 1590, U.S. Court of Appeals Federal Circuit 1999. These claims are too obvious over claims 1, 1, 2, 3, 3, and 4 of U.S. Patent Number No.6308167, at least in view of the Georgia case (see above).

3. Claim 2-5, 9, 11-14,18-21, and 24 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6308167 in view of Cornaby (U.S. Patent Number 5410722).

Referring to claim 2, claim 1 of U.S. Patent No. 6308167 does not fully encompass/anticipate the said instant claim. However, Cornaby teaches a queue system for dynamically allocating and moving memory registers between a plurality of pseudo queues, wherein a pointer to a next register, a pointer to a previous register, and a pointer to the data structure in the queue (Cornaby, Column 2 Line 14-48).

At the time the invention was made, it would have been obvious to combine said feature of using previous/next pointers in a queue as taught by Cornaby with claim 1 of U.S. Patent No. 6308167 so that the combined system would constitute the system of instant claim 1, wherein each generic queue header includes a pointer to a next generic queue header, a pointer to a previous generic queue header, and a pointer to the attached data structure. One would have been motivated to do so in order that "queues within the queue system are not limited to a fixed length" (Cornaby, Column 2 Line 11-13).

Referring to claim 3, claim 1 of U.S. Patent No. 6308167 in view of Cornaby discloses the invention as claimed. See Abstract of Cornaby's specification for this disclosure, i.e. "Control means is provided for dynamically assigning task registers to queues by controlling the addresses stored in the previous and next fields in each header and task registers such that each of said task registers is always assigned to a

queue in the queue system". Claim 1 of U.S. Patent No. 6308167 in view of Cornaby is additionally directed to the system of instant claim 2, wherein each generic queue header includes a dynamic queue header.

Referring to claim 4, claim 1 of U.S. Patent No. 6308167 in view of Cornaby discloses the invention as claimed. See Figure 2 of Cornaby's specification for this disclosure, which shows a plurality of static queue headers. Claim 1 of U.S. Patent No. 6308167 in view of Cornaby is additionally directed to the system of instant claim 2, wherein each generic queue header includes a static queue header.

Referring to claim 5, claim 1 of U.S. Patent No. 6308167 in view of Cornaby discloses the invention as claimed. See Figure 5-6 of Cornaby's specification for this disclosure. Claim 1 of U.S. Patent No. 6308167 in view of Cornaby is additionally directed to the system of instant claim 1, wherein the plurality of queue function calls includes operations such as insert, remove, search and remove, search and insert, search only and peek.

Referring to claim 9, claim 1 of U.S. Patent No. 6308167 in view of Cornaby discloses the invention as claimed. Official Notice is taken that the use of queuing system in operating systems and drivers is notoriously well known in the art. The queuing system of instant claim 1 operates on a computer, which comprises drivers and an operating system.

Claim 11 is rejected on the same basis as instant claim 2.

Claim 12 is rejected on the same basis as instant claim 3.

Claim 13 is rejected on the same basis as instant claim 4.

Claim 14 is rejected on the same basis as instant claim 5.

Referring to claim 18, claim 1 of U.S. Patent No. 6308167 in view of Cornaby discloses the invention as claimed. Claim 1 of U.S. Patent No. 6308167 in view of Cornaby is directed to a method for managing a queue having a plurality of queue headers within a computer system comprising the steps of:

attaching a plurality of data structures to the plurality of queue headers, where each data structure is attached to one of the plurality of queue headers (Cornaby, Figure 2-3L which shows a plurality of queue headers wherein each queue header includes a data structure); and

controlling operations of the plurality of queue headers utilizing one of a plurality of queue function calls (Cornaby, Figure 2-3L).

Referring to claim 19, claim 1 of U.S. Patent No. 6308167 in view of Cornaby discloses the invention as claimed. Claim 1 of U.S. Patent No. 6308167 in view of Cornaby is directed to the method of instant claim 18, wherein the step of attaching includes the following steps:

configuring each data structure for a specific transaction (Cornaby, Figure 2-3L which shows queue headers wherein each queue header includes a data structure for a specific transaction); and

allocating each configured data structure to one of the queue headers including a dynamic queue header (Cornaby, Abstract, i.e. Control means is provided for dynamically assigning task registers to queues by controlling the addresses stored in

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the previous and next fields in each header and task registers such that each of said task registers is always assigned to a queue in the queue system”).

Referring to claim 20, claim 1 of U.S. Patent No. 6308167 in view of Cornaby discloses the invention as claimed. Claim 1 of U.S. Patent No. 6308167 in view of Cornaby is directed to the method of instant claim 18, wherein the step of controlling includes inserting an additional data structure onto one of the plurality of queue headers (Cornaby, Figure 2-5 and Column 2 Line 34-49).

Referring to claim 21, claim 1 of U.S. Patent No. 6308167 in view of Cornaby discloses the invention as claimed. Claim 1 of U.S. Patent No. 6308167 in view of Cornaby is directed to the method of instant claim 19, wherein the step of controlling includes removing one of the attached data structures from one of the plurality of queue headers (Cornaby, Figure 2-3L).

Referring to claim 24, claim 1 of U.S. Patent No. 6308167 in view of Cornaby discloses the invention as claimed. Claim 1 of U.S. Patent No. 6308167 in view of Cornaby is directed to the method of instant claim 18, wherein, wherein the step of controlling includes peeking in a predetermined order at the attached data structures (Cornaby, Column 2 Line 50-57).

4. Claim 8, 17, 22, 23, and 25 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6308167 in view of Cornaby and further in view of Douceur et al. (U.S Patent Number 6041053).

Referring to claim 8, claim 1 of U.S. Patent No. 6308167 in view of Cornaby does not fully encompass/anticipate the said instant claim. However, Douceur et al. is directed to a system and method classifying packets wherein each data structure includes a search key field, and one of the generic queue function calls utilizes a search command to scan each data structure attached to one of the generic queue headers until the search command matches the search key field and the operation of the one of the queue function calls is performed (Abstract of Douceur et al.)

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the feature of using a search key field as taught by Douceur et al. to the system and method of the claim 1 of 1 of U.S. Patent No. 6308167 in view of Cornaby so that, in the resultant system and method, each data structure would include a search key field, and one of the generic queue function calls utilizes a search command to scan each data structure attached to one of the generic queue headers until the search command matches the search key field and the operation of the one of the queue function calls is performed. One would have been motivated to do so in order to provide "a search technique capable of rapidly retrieving stored information from a data structure" (Douceur et al., Column 3 Line 54-58).

Claim 17 is rejected on the same basis as instant claim 8.

Referring to claim 22, claim 1 of U.S. Patent No. 6308167 in view of Cornaby and further in view of Douceur et al. as applied to claim 8 above discloses the invention as claimed. Claim 1 of U.S. Patent No. 6308167 in view of Cornaby and further in view of Douceur et al. is directed to the method of instant claim 18, wherein the step of

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controlling includes searching the attached data structures having a search key field using a search command and removing the searched data structure satisfying the search command (See Abstract of Douceur et al.).

Referring to claim 23, claim 1 of U.S. Patent No. 6308167 in view of Cornaby and further in view of Douceur et al. as applied to claim 22 above discloses the invention as claimed. Claim 1 of U.S. Patent No. 6308167 in view of Cornaby and further in view of Douceur et al. is directed to the method of instant claim 18, wherein the step of controlling includes searching the attached data structures having a search key field using a search command and inserting an additional data structure onto one of the plurality of queue headers (See Abstract of Douceur et al.).

Referring to claim 25, claim 1 of U.S. Patent No. 6308167 in view of Cornaby and further in view of Douceur et al. as applied to claim 22 above discloses the invention as claimed. Claim 1 of U.S. Patent No. 6308167 in view of Cornaby and further in view of Douceur et al. is directed to the method of instant claim 18, wherein the step of controlling includes searching the attached data structures having a search key field using a search command and reporting a location of the attached data structure satisfying the search command (See Abstract of Douceur et al.).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 1-5, 9-14, 18-21, and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Cornaby (U.S. Patent Number 5410722).

As per claim 1, Cornaby teaches a computer system using a queuing system for managing a queue, said queuing system comprising:

a plurality of generic queue headers (Cornaby, Figure 2. Figure 2 shows a plurality of queues);

a plurality of links for connecting the generic queue headers in a predetermined manner (Cornaby, Abstract and Column 1 Line 54-64);

a plurality of data structures, each data structure attached to one of the generic queue headers (Cornaby, Figure 3A-3L); and

a plurality of queue function calls for controlling operations of the plurality of generic queue headers (Cornaby, Abstract, i.e. "task registers").

As per claim 2, Cornaby teaches the queuing system of claim 1, wherein each generic queue header includes a pointer to a next generic queue header, a pointer to a previous generic queue header, and a pointer to the attached data structure (Cornaby, Column 2 Line 14-18).

As per claim 3, Cornaby teaches the queuing system of claim 2, wherein each generic queue header includes a dynamic queue header (Cornaby, Abstract, "i.e. "Control means is provided for dynamically assigning task registers to queues by controlling the addresses stored in the previous and next fields in each header and task registers such that each of said task registers is always assigned to a queue in the queue system").

As per claim 4, Cornaby teaches the queuing system of claim 2, wherein each generic queue header includes a static queue header (Cornaby, Figure 2. Figure 2 shows a plurality of static queue headers).

As per claim 5, Cornaby is directed to the queuing system of claim 1, wherein the plurality of queue function calls includes operations such as insert, remove, search and remove, search and insert, search only and peek. See Figure 5-6 of Cornaby's specification for this disclosure.

As per claim 9, Cornaby as applied to claim 1 above discloses the invention as claimed. Official Notice is taken that the use of queuing system in operating systems and drivers is notoriously well known in the art. The queuing system of claim 1 operates on a computer, which comprises drivers and an operating system.

As per claim 10, Cornaby is directed to a queuing system used in an intelligent 120 driver of a computer system for managing a queue, said queuing system comprising:

a plurality of queue headers (Cornaby, Figure 2 which shows a plurality of queues);

a plurality of links for connecting the queue headers in a predetermined manner (Cornaby, Abstract and Column 1 Line 54-64);

a plurality of data structures, each data structure attached to one of the queue headers (Cornaby, Figure 3A-3L); and

a plurality of queue action function calls for controlling operations of the plurality of queue headers (Cornaby, Abstract, i.e. "task registers").

Claim 11 is rejected on the same basis as claim 2.

Claim 12, 13, and 14 are rejected on the same basis as claim 3, 4, and 5 respectively.

As per claim 18, Cornaby discloses the invention as claimed. Cornaby is directed to a method for managing a queue having a plurality of queue headers within a computer system comprising the steps of:

attaching a plurality of data structures to the plurality of queue headers, where each data structure is attached to one of the plurality of queue headers (Cornaby, Figure 2-3L which shows a plurality of queue headers wherein each queue header includes a data structure); and

controlling operations of the plurality of queue headers utilizing one of a plurality of queue function calls (Cornaby, Figure 2-3L).

As per claim 19, Cornaby discloses the invention as claimed. Cornaby is directed to the method of instant claim 18, wherein the step of attaching includes the following steps:

configuring each data structure for a specific transaction (Cornaby, Figure 2-3L which shows queue headers wherein each queue header includes a data structure for a specific transaction); and

allocating each configured data structure to one of the queue headers including a dynamic queue header (Cornaby, Abstract, i.e. Control means is provided for dynamically assigning task registers to queues by controlling the addresses stored in the previous and next fields in each header and task registers such that each of said task registers is always assigned to a queue in the queue system").

As per claim 20, Cornaby discloses the invention as claimed. Cornaby is directed to the method of instant claim 18, wherein the step of controlling includes inserting an additional data structure onto one of the plurality of queue headers (Cornaby, Figure 2-5 and Column 2 Line 34-49).

As per claim 21, Cornaby discloses the invention as claimed. Cornaby is directed to the method of instant claim 19, wherein the step of controlling includes removing one of the attached data structures from one of the plurality of queue headers (Cornaby, Figure 2-3L).

As per claim 24, Cornaby discloses the invention as claimed. Cornaby is directed to the method of instant claim 18, wherein, wherein the step of controlling includes peeking in a predetermined order at the attached data structures (Cornaby, Column 2 Line 50-57).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 6, 7, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cornaby in view of Johnson et al. (U.S. Patent Number 5133053).

Referring to claim 6, Cornaby teaches the system the queuing system of claim 1 but does not explicitly disclose that, in the said system, each link connecting a pair of the generic queue headers is unidirectional. However, Johnson et al. teaches a system and method for interprocess communication queue location transparency, wherein bi-directional queues are employed to be more efficient for request and reply (Johnson et al., Column 10 Line 61-64). Note that bi-directional queues implemented in said manner could also function as unidirectional queues. Unidirectional feature is already inherent in a bidirectional queuing system.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the feature of unidirectional/bidirectional queues as taught by Johnson et al. with the system and method taught Cornaby so that, in the combined system and method, each link connecting a pair of the generic queue headers would be unidirectional. One would have been motivated to do so in order to "be more efficient for request and reply" (Johnson et al, Column 10 Line 61-64).

Claim 7 is rejected on the same basis as claim 6.

Claim 15 and 16 are rejected on the same basis as claim 6 and 7 respectively.

7. Claim 8, 17, 22, 23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cornaby in view of Douceur et al.

Referring to claim 8, Cornaby as applied to claim 1 above does not explicitly teach that, in the said system of claim 1, wherein each data structure includes a search key field, and one of the generic queue function calls utilizes a search command to scan each data structure attached to one of the generic queue headers until the search command matches the search key field and the operation of the one of the queue function calls is performed. However, Douceur et al. is directed to a system and method classifying packets wherein each data structure includes a search key field, and one of the generic queue function calls utilizes a search command to scan each data structure attached to one of the generic queue headers until the search command matches the search key field and the operation of the one of the queue function calls is performed (Abstract of Douceur et al.)

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to add the feature of using a search key field as taught by Douceur et al. to the system and method of the claim 1 of 1 of U.S. Patent No. 6308167 in view of Cornaby so that, in the resultant system and method, each data structure would include a search key field, and one of the generic queue function calls utilizes a search command to scan each data structure attached to one of the generic queue

headers until the search command matches the search key field and the operation of the one of the queue function calls is performed. One would have been motivated to do so in order to provide "a search technique capable of rapidly retrieving stored information from a data structure" (Douceur et al., Column 3 Line 54-58)

Claim 17 is rejected on the same basis as claim 8.

Referring to claim 22, Cornaby in view of Douceur et al. as applied to claim 8 above discloses the invention as claimed. Cornaby in view of Douceur et al. is directed to the method of instant claim 18, wherein the step of controlling includes searching the attached data structures having a search key field using a search command and removing the searched data structure satisfying the search command (See Abstract of Douceur et al.).

Referring to claim 23, Cornaby in view of Douceur et al. as applied to claim 22 above discloses the invention as claimed. Cornaby in view of Douceur et al. is directed to the method of instant claim 18, wherein the step of controlling includes searching the attached data structures having a search key field using a search command and inserting an additional data structure onto one of the plurality of queue headers (See Abstract of Douceur et al.).

Referring to claim 25, Cornaby in view of Douceur et al. as applied to claim 22 above discloses the invention as claimed. Cornaby in view of Douceur et al. is directed to the method of instant claim 18, wherein the step of controlling includes searching the attached data structures having a search key field using a search command and

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reporting a location of the attached data structure satisfying the search command (See Abstract of Douceur et al.).

Conclusion

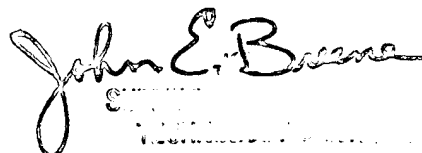
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Myint whose telephone number is (571) 272-5629. The examiner can normally be reached on 8:30AM-5:30PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dennis Myint

AU-2162

A handwritten signature in black ink that reads "John E. Breene". The signature is written in a cursive style with a large, looped "J" and a stylized "B". Below the signature, there is a faint, rectangular stamp that appears to be an official seal or identification mark, though the details are not clearly legible.